

ABSTRACT OF THE DISCLOSURE

A focal length measuring device comprises a light source unit for generating a collimated light, a diffraction grating for deflecting the collimated light by a deflection angle θ , and an image-pickup element for measuring a position of a focused spot light after the deflected light passes the lens to be tested. The diffracting grating is disposed near a front focal plane of the lens to be tested. The image-pickup element is disposed near a rear focal plane of the lens to be tested. A focal length is calculated according to a relationship such as $h = f \tan \theta$ under condition that h indicates an image height as a distance from the optical axis. By doing this, it is possible to measure the focal length accurately and easily while restricting an influence of a depth of focus and an aberration.